

REMARKS

Claims 1 through 9 11, and 12 are currently pending in the application.

Claims 10 and 13 have been canceled.

This amendment is in response to the Final Office Action of June 4, 2003 and the Advisory Action of July 15, 2003.

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claims 9, 10 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al. (U.S. Patent 5,827,783) in view of Wolf et al. (ISBN 0-9616721-6-1) and Haller et al. (U.S. Patent 5,804,506).

Claim 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al., Wolf et al. and Haller et al. as applied to claim 10 above, and further in view of Kawakubo (U.S. Patent 5,889,696).

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia et al., Wolf et al. and Haller et al. as applied to claim 10 above, and further in view of DeBoer et al. (U.S. Patent 5,930,106 and DERWENT copy, under “Novelty”).

Applicants submit that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants’ disclosure.

With respect to any rejections of presently amended claims 1 through 9 under 35 U.S.C. § 103(a) as being unpatentable over Hsia in view of Wolf and Haller, Applicants respectfully submit that any rejection of the presently amended claims on the cited prior art fails to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed invention because, at the very least, any combination of the cited prior art fails to teach or suggest all the claim limitations of the presently claimed invention.

As asserted in the text of the Office Action, the asserted *prima facie* case of obviousness for the rejection of previous claims 1 through 10 and 13 is structured under 35 U.S.C. § 103 as follows.

Applicants’ invention is obvious because all of its elements are taught in the combination of Hsia and Haller. Hsia forms a corrugated capacitor wall of alternating layers of silicon oxide having differential etch rates due to the different

methods by which they were deposited (plasma CVD and thermal CVD). The layers of Hsia are substituted with alternating BPSG layers having differing degrees of Germanium doping. Haller teaches that increasing the germanium doping level of BPSG increases the etch rate of the layer, and thus the substituted layers will also have differential etch rates. Wolf teaches that BPSG is widely used in capacitors, and thus motivates the use of BPSG as a capacitor wall.

Applicants submit that Wolf cannot be used as a motivation for substituting doped BPSG layers for the silicon oxide layers of Hsia (Office Action, page 3, first paragraph). Applicants very respectfully submits that a reference which contains only teachings toward a specific manner of usage of BPSG glass in capacitors cannot be seen as motivating other specific manners of usage to which the reference is not directed. In the present case, Wolf suggests the use of BPSG as a dielectric between two capacitor plates. The reference asserts that BPSG “finds wide use as the pre-metal dielectric layer between polysilicon and metal, and as dielectrics between stacked capacitors and metals in DRAMs.” Pg. 200, first full paragraph. Both situations, if they pertain to capacitors at all employ BPSG as the dielectric layer between a pair of structures which function as the plates of a capacitor. Applicants, on the other hand, uses *doped* BPSG in a completely different application-as a *capacitor wall*. See Figs 1 and 1A. Thus, Applicants submit that Wolf cannot serve as a motivation or suggestion to combine the teachings of Hsia with the teachings of Haller.

Furthermore, Wolf actually teaches against or away from the use of BPSG as a cell wall. More specifically, a capacitor dielectric and a capacitor wall usually have contradictory material requirements in that a capacitor dielectric must be non-conductive, and a capacitor wall generally must have at least some ability to store charge. Thus teaching that a material such as BPSG is appropriate for use as a capacitor dielectric is a teaching against its use as a capacitor wall. Applicants respectfully submit that Wolf fails as a motivation to combine the teachings of Hsia and Haller to arrive at Applicants’ invention, and a *prima facie* case of obviousness cannot be established under 35 U.S.C. § 103 regarding the claimed invention.

Moreover, no other motivations for combining Hsia and Haller are advanced. Applicants respectfully submit that “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” MPEP 2143.01. Claims 1 through 10 and 13 are thus respectfully deemed allowable.

Additionally, any combination of the cited prior art fails to teach or suggest the limitations of the presently claimed invention calling for “at least one layer of boro-phospho silicate glass”, “at least one layer of germanium boro-phospho silicate glass having at least a portion thereof contacting at least a portion of said at least one layer of boro-phospho silicate glass”, “at least one layer of dielectric material covering at least the side wall surface of said capacitor cell”, and “at least one electrode layer deposited over at least a portion of the at least one layer of dielectric material”.

Therefore, any combination of the cited prior art does not and cannot establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the presently claimed invention of claims 1 through 9. Accordingly, such claims are allowable.

Claims 11 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia, Wolf and Haller as applied to claim 10 above, and further in view of Kawakubo (U.S. Patent 5,889,696).

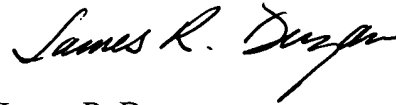
Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Hsia, Wolf and Haller as applied to claim 10 above, and further in view of DeBoer (U.S. Patent 5,930,106 and DERWENT copy, under “Novelty”).

Applicants respectfully submit that claims 11 and 12 are allowable as they depend from claim 9, which is allowable.

In summary, Applicants submit that claims 1 through 13 are clearly allowable over the cited prior art.

Applicants request the entry of this amendment, the allowance of claims 1 through 9, 11 and 12, and the case passed for issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James R. Duzan". The signature is fluid and cursive, with a long, sweeping underline.

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